Let $K$ be a differential field of characteristic zero with algebraically closed subfield of constants $C$. A differential central simple algebra, and in particular a differential matrix algebra, over $K$ is trivialized by a Picard-Vessiot extension $E$ of $K$. This yields a bijection between isomorphism classes of differential algebras and Picard-Vessiot cocycles $Z^1(G(E/K), PGL_n(C))$ which cobound in $Z^1(G(E/K), PGL_n(E))$. We will prove these results and illustrate how the differential Brauer group of an algebraically closed field can be non trivial. (Received February 19, 2007)